



U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 3
DELAWARE, MARYLAND, PENNSYLVANIA, VIRGINIA, WEST VIRGINIA AND THE DISTRICT OF COLUMBIA

ARMY CREEK LANDFILL SUPERFUND SITE UPDATE

July 2009

NEW CASTLE COUNTY, DELAWARE

The United States Environmental Protection Agency (EPA) is providing this fact sheet to update residents and interested parties about the Army Creek Landfill Superfund Site.

Five-Year Review

In January 2009, EPA began its third Five-Year Review of the remedy implemented at the Army Creek Landfill Superfund Site (Site) located in New Castle County, Delaware. This review, which is being conducted by the Remedial Project Manager, is expected to be completed and available for review at the end of July 2009. It will address two major components:

- The multi-layer cap over the 50-acre landfill
- The groundwater recovery and treatment system

The purpose of the review is to determine whether the landfill cap and the remedy for contaminated groundwater at the Site are protective of human health and the environment.

Why a Five-Year Review?

EPA inspects sites every five years to ensure that cleanups remain fully protective of human health and the environment. These regular reviews, which are required by law when contaminants remain at a site, include:

- Inspection of the site and cleanup technologies
- Review of monitoring and operating data, and maintenance records
- Determination if any significant new health standards have been established since EPA selected a cleanup plan for the site.

The third Five-Year Review for the Army Creek Landfill Superfund Site is expected to be completed in July 2009.

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Visit EPA's website for more
information on the Army Creek
Landfill Superfund Site at:

<http://www.epa.gov/reg3hwmd/super/sites/DED980494496/index.htm>

Looking Back: A Brief History of the Site

- **1960 through 1968** - The Army Creek Landfill, a former sand and gravel quarry, was operated by New Castle County (the County) as a municipal and industrial waste landfill.
- **1973** - The County began operating groundwater recovery wells to prevent contaminated groundwater beneath the landfill from reaching the public water supply wells.
- **September 8, 1983** - The Site was added to the National Priorities List (NPL) of the most serious uncontrolled or abandoned hazardous waste sites, making it eligible for long-term cleanup under the federal Superfund program. Another NPL site, the Delaware Sand & Gravel Landfill, is located immediately to the east of the Site.
- **June 1990** - EPA issued the final cleanup decision for the Site.
- **September 1991** - 18 potentially responsible parties entered into a Consent Decree with EPA, agreeing to implement the final cleanup plan.
- **1992-1993** - A multi-layer cap was constructed over the landfill and an on-site groundwater treatment plant was built.
- **November 2000** - Artesian Water Company (Artesian) maintains a public drinking water supply well field one-half mile from the Site. In 2000, bis(2-chloroethyl)ether (BCEE) was found in drinking water samples at levels slightly above the EPA action level. The Delaware Division of Public Health set a drinking water standard for BCEE which public water supplies in the State must meet.
- **November and December 2000** - Artesian installed activated carbon filters at its Llangollen well field to remove BCEE from drinking water.
- **2001 through 2004** - New Castle County studied ways to improve its groundwater recovery operations and installed additional wells to capture contaminants from the two Superfund sites.
- **2004** - Groundwater recovery operations were shifted to the Delaware Sand & Gravel Landfill Site where the highest concentrations of BCEE and benzene are found. The groundwater recovered from that Site is discharged to the County's wastewater treatment plant located in Wilmington. This pilot study was found to be effective and was extended into 2009.

There are two contaminants of concern (COCs) in the groundwater, which have been traced back to the Delaware Sand and Gravel Landfill (DS&G) Site: bis(2-chloroethyl)ether (BCEE) and benzene.

What is BCEE?

BCEE is a colorless, nonflammable liquid with a strong odor. It is man-made for use in the production of pesticides and other chemicals. BCEE dissolves in water and slowly evaporates in air. In the environment, BCEE may be broken down by bacteria in soil and water, and chemical reactions in the air. BCEE causes cancer in laboratory animals.

What is Benzene?

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities. Benzene can cause health problems, like dizziness. It can also cause cancer in humans.

Community Participation

EPA's Five-Year Review process may include interviews with community members, if there is interest. If you have any questions or comments about the Site, or would like to arrange an interview, please contact Vance Evans at 800-553-2509 or directly at 215-814-5526. **All comments should be received by Friday, July 24, 2009.**

The Site's Status Today

EPA has overseen all cleanup activities for the Site, including:

- Installation of a multi-layer cap over the 50-acre landfill
- Operation of the groundwater recovery and treatment system from 1993 to 2004
- Groundwater, stream and air monitoring
- Pumping of contaminated groundwater from the hot spot at the Delaware Sand & Gravel Landfill site since 2004

In 2004, groundwater recovery efforts were shifted to the adjacent Delaware Sand & Gravel Landfill site where the highest concentrations of BCEE and benzene are found. The operation of the Army Creek Landfill groundwater recovery and treatment system was then suspended.

Site monitoring has shown that the waste within the Army Creek Landfill has been effectively contained and is no longer degrading Army Creek or the local aquifer.

Your EPA Representatives

If you have any questions or concerns regarding the Army Creek Landfill Superfund Site, please contact:

Superfund Hotline

1-800-553-2509

Debra Rossi

Remedial Project Manager

rossi.debra@epa.gov

215-814-3328

Vance Evans

Community Involvement Coordinador

800-553-2509

215-814-5526

evans.vance@epa.gov



U.S. Environmental Protection Agency

Attention: Vance Evans

Mailcode 3HS52

1650 Arch Street

Philadelphia, PA 19103